Received: 24 March 2021 | Revised: 2 July 2021 | Accepted: 27 July 2021

DOI: 10.1002/ajs4.176

ORIGINAL ARTICLE

WILEY

Profiling racial prejudice during COVID-19: Who exhibits anti-Asian sentiment in Australia and the United States?

Xiao Tan[1] | **Rennie Lee**[2] | **Leah Ruppanner**[1]

[1]University of Melbourne, Parkville, VIC, Australia

[2]University of Queensland, Institute for Social Science Research, Indooroopilly, QLD, Australia

Correspondence
Leah Ruppanner, University of Melbourne, Melbourne, Vic., Australia.
Email: Leah.ruppanner@unimelb.edu.au

Funding information
This research was supported by the Faculty of Arts at University of Melbourne and the Australian Research Council (ARC) Centre of Excellence for Children and Families over the Life Course (Project Number CE200100025).

Abstract

Following the COVID-19 outbreak, anti-Asian racism increased around the world, as exhibited through greater instances of abuse and hate crimes. To better understand the scale of anti-Asian racism and the characteristics of people who may be expressing racial prejudice, we sampled respondents in Australia and the United States over 31 August–9 September 2020 (1375 Australians and 1060 Americans aged 18 or above; source YouGov). To address potential social desirability bias, we use both direct and indirect (list experiment) questions to measure anti-Asian sentiment and link these variables to key socioeconomic factors. We find that, instead of being universal among general populations, anti-Asian sentiment is patterned differently across *both* country contexts and socioeconomic groups. In the United States, the most significant predictor of anti-Asian bias is political affiliation. By contrast, in Australia, anti-Asian bias is closely linked to a wide range of socioeconomic factors including political affiliation, age, gender, employment status and income.

KEYWORDS
anti-Asian, anti-Chinese, COVID-19, list experiment, racism

© 2021 Australian Social Policy Association

1 | INTRODUCTION

The COVID-19 pandemic emerged as an international crisis in early 2020. Originating from Wuhan, China, the COVID-19 pandemic instantly became associated with China and Asia more broadly. The political grievances lodged against China and the Chinese government at the start of the pandemic (Karp & Davidson, 2020; Kiely et al., 2020) soon translated into direct assaults and violence against the Chinese diaspora and other members of the broader Asian population (Chiu, 2020; Razik, 2020; Stop AAPI Hate, 2021; Tessler et al., 2020; Zhou, 2020).

These recent developments track with existing research which shows that anti-Asian sentiment increased during previous pandemics, with Asian culture and habits blamed for the spread of infectious disease (Barde, 2003; Mohr, 2004; White, 2020). The perceived discrimination has been associated with worsening mental health among Asian Americans (Cheah et al., 2020; Cheng, 2020). Additionally, anti-Asian sentiment has broad economic consequences as patronage to Asian restaurants and businesses, especially those in Asian-ethnic enclaves of big cities (i.e. Chinatowns), declined dramatically (Eichelberger, 2007).

While previous research indicates that anti-Asian sentiment increased under pandemics with important consequences for Asians (Barde, 2003; Eichelberger, 2007), absent from this literature is a deeper understanding of how anti-Asian sentiment is expressed across sociodemographic groups and, critically, whether these patterns are similar across nations. In this study, we examine anti-Asian sentiment in Australia and the United States—two countries with similar cultural profiles but very different approaches to the pandemic, both in its infection management and in political rhetoric and scapegoating of the Chinese government. Thus, comparing respondents in these two countries helps illuminate how strong anti-Chinese political messaging amid uncontained viral spread may have exacerbated anti-Asian sentiment in the United States relative to Australia.

The Asian population is a diverse group that comprises individuals from multiple national origins and languages. Despite this diversity, Asian communities have reported a shared experience of discrimination (Gee & Ponce, 2010; Morey et al., 2020) and it is common for Chinese and Asian populations to be used interchangeably, perhaps because Chinese represent the largest group in the Asian population in both Australia and the United States (Budiman & Ruiz, 2021; Chang, 2017). In turn, anti-Chinese sentiment may be expressed more generally as anti-Asian sentiment in the broader public consciousness.

Using a survey fielded on the YouGov Australian and U.S. online panels over 31 August–9 September 2020 (1375 Australian and 1060 U.S. respondents), we examine anti-Asian prejudice through both direct and indirect (list experiment) questions. Indirect questions are needed because anti-Asian sentiment introduces a desirability bias whereby people are less likely to express their discriminatory attitudes toward racial groups for fear of retribution. Linking these data with socioeconomic factors, we identify how anti-Asian sentiment is associated with political affiliation, age, gender, education, employment status and income groups.

2 | HISTORICAL AND CONTEMPORARY LINKS BETWEEN ANTI-ASIAN SENTIMENTS AND PANDEMICS

Asian populations in Western countries have long been viewed as unassimilable foreigners (Eichelberger, 2007; Lee, 2007). Historically, anti-Chinese sentiment has been invoked during other epidemics (White, 2020). For instance, in the early 1900s, newspaper reports attributed several plague pandemics to aspects of Chinese "culture" and hygiene (Barde, 2003). During the spread of the bubonic plague in Honolulu, the city's Chinatown was put under a full quarantine though other areas were not subject to quarantine (Mohr, 2004). More recently,

during the SARS epidemic from 2002 to 2004, similar rhetoric placed blame on Chinese culture and food. For instance, patronage of Chinese restaurants in the United States declined dramatically despite only eight cases nationally (Eichelberger, 2007). While the link between disease and othering is not new, disease outbreaks can invoke historical stereotypes depicting Asians as threatening foreigners and, in turn, induce the return of more overt forms of racism (Ali, 2008).

Since the COVID-19 outbreak, there has been a surge in racism, abuse and hate crimes against Asians in both Australia (Chiu, 2020; Razik, 2020; Zhou, 2020) and the United States (Cheah et al., 2020; Stop AAPI Hate, 2021). Correspondingly, several social surveys have examined the experiences of the greater Asian diaspora (Kassam & Hsu, 2021; Markus, 2021). For example, a social survey by the Australian Lowy Institute suggests that nearly one in five Chinese Australians were either threatened or attacked in the past year (survey conducted in November 2020), and of those participants who reported the negative experiences, two-thirds said they believed the COVID-19 pandemic was a contributing factor (Kassam & Hsu, 2021). Likewise, in the United States, the Pew Research Center found that nearly 40 per cent of U.S. adults agreed that it has become more common to express racist views against Asians than before COVID-19 (Ruiz, Horowitz, & Tamir, 2020). In addition to personal encounters, there has been a rise in anti-Asian sentiment online via Google searches and Twitter posts (Lu & Sheng, 2020).

The historical and contemporary links between pandemics and racism have been attributed to several factors. First, historical and longstanding stereotypes of Asians as foreigners who are unhealthy and untrustworthy have contributed to the link between racism during pandemics or disease outbreaks (Tessler et al., 2020). Historical immigration policies that barred Chinese from entry (e.g. Chinese Exclusion Act and White Australia policy) or policies that prohibited Chinese from becoming naturalised citizens in the United States contribute to this stereotype as foreigners (Man, 2020:26). This is related to widespread public perception that immigrants have poor health, which has been driven by the media and anti-immigrant sentiment (Noymer & Lee, 2013).

In addition, other factors associated with anti-Asian sentiment include an assumption linking the origin of COVID-19 (Cheng, 2020), fear of an infectious disease (Lu & Sheng, 2020: 3), misleading media coverage (Darling-Hammond et al., 2020) and political rhetoric (Hswen et al., 2021; Lu & Sheng, 2020:4). To illustrate, Hswen et al. (2021) found that after former President Trump used the phrased "China Virus", anti-Chinese and anti-Asian sentiment increased dramatically on social media. In sum, historical structures and policies that gave rise to stereotypes of Asians as foreigners as well as misleading media coverage and political rhetoric all contribute to the link between pandemics and racism.

Given these factors, we anticipate:

> **H1**. There was widespread anti-Asian sentiment in both Australia and the United States during the first year of the COVID-19 pandemic (September 2020).

3 | A COMPARISON BETWEEN AUSTRALIA AND THE UNITED STATES

Australia and the United States are two English-speaking, OECD nations with a history of settler colonialism (Man, 2020; Moses et al., 2019). Likewise, both have similar migration histories that initially hailed from Britain and subsequently from Europe. Additionally, Asian immigration played an important role in the early history of both countries and continues to be a primary driver of contemporary migration. Asian migration in both countries is dominant and comprises one of the fastest growing and largest demographic groups (Budiman & Ruiz,

2021; Chang, 2017). According to the most recent census data, the Asian population represents 10 per cent of Australia's population and 6 per cent in the United States (Chang, 2017; Table 1).

Additionally, Australia and the United States share a history of anti-Asian migration legislation. Australian colonial legislation banned Chinese migration from 1878 to 1885, forming the foundations of the White Australia policy, remnants of which were only definitively lifted in 1973 (Griffiths, 2002). Likewise, the Page Act of 1875 prohibited the entry of Chinese women to the United States in response to fears about cheap labour and prostitution (Peffer, 1986). Shortly after, Chinese exclusion was more broadly applied to all Chinese immigration to the United States via the Chinese Exclusion Act of 1882 (Gyory, 1998). Thus, Chinese immigrants specifically, and Asian immigrants broadly, have experienced a long history of otherness, foreignness and discrimination, despite their significant representation within the Australian and U.S. populations.

3.1 | Contextualising COVID-19 in Australia and the United States: the first year

Although the United States and Australia draw similar historical legacies in their anti-Chinese and anti-Asian colonial pasts, federal approaches to COVID-19 and the blame laid on the Chinese government varied. The United States exhibited strong political polarisation, a decentralised approach and a patchwork of state measures to control infection rates. Former U.S. President Trump openly blamed China for COVID-19 and used his presidential platform to call COVID-19 the "China Virus" and "Kungflu" more than 20 times despite public health officials' pleas to avoid attaching locations or ethnicities to the disease (Kiely et al., 2020). In contrast, Australia had unified federal and state messaging and policy implementation (Child et al., 2020). Compared to former President Trump, Prime Minister Scott Morrison has struck a friendlier tone. While he has defended inquiries for the origins of COVID-19, he has shown solidarity with the Asian community and denouncing racist behaviour (Truu, 2020).

At the time of our survey, the United States had one of the highest COVID-19 infection rates in the world (Figure 1). On the contrary, except for the state of Victoria, which experienced a second wave of infections and subsequent strict lockdowns, the transmission of the virus has been minimal in Australia (Figure 1). Thus, the risk of exposure to COVID-19 was substantially lower in Australia than in the United States, which may reduce expressions of anti-Asian fear of catching the virus.

Given the contextual factors elaborated above, we expect respondents in the United States to report greater anti-Asian sentiment and, importantly, by political affiliation:

> **H2**. Australians reported less fear of COVID-19 infection from Asians and showed lower levels of avoidance of Chinese restaurants than Americans during the first year of the pandemic.
>
> **H3**. Compared to Australia, anti-Asian sentiment in the United States differs more strongly by political affiliation during the first year of the pandemic.

4 | DATA AND METHODS

4.1 | Data

To test these hypotheses, we fielded surveys on the YouGov (a global leader in survey research) online panels in Australia and the United States over 31 August–9 September 2020. These

TABLE 1 Demographics

			Australia (N = 1375)			United States (N = 1060)		
	Min	Max	Proportion	Standard Deviation	2016 Census	Proportion	Standard Deviation	2019 Estimates
Political affiliation: Labor (AU)/ Democrat (US)	0	1	28%	0.45	–	37%	0.48	–
Political affiliation: Coalition (AU)/ Republican (US)	0	1	31%	0.31	–	24%	0.43	–
Political affiliation: Greens (AU)/ Independent (US)	0	1	10%	0.10	–	27%	0.44	–
Political affiliation: Voted other/did not vote	0	1	31%	0.16	–	12%	0.32	–
Age: between 18 and 39	0	1	39%	0.29	37%[a]	38%	0.45	37%[a]
Age: between 40 and 64	0	1	40%	0.33	42%[a]	42%	0.44	45%[a]
Age: 65 or above	0	1	20%	0.38	21%[a]	20%	0.50	18%[a]
Gender (1 = woman)	0	1	51%	0.51	51%	52%	0.50	51%
Education (1 = bachelor's degree or above)	0	1	44%	0.44	22%[b]	28%	0.45	32%[d]
Employment (1 = employed)	0	1	56%	0.56	57%[a]	43%[e]	0.50[e]	52%
Low income: less than AU$50,000/ US$40,000	0	1	36%	0.36	–[c]	33%	0.47	–[c]
Middle income: between AU$50,000/ US$40,000 and AU$99,999/ US$79,999	0	1	29%	0.29	–[c]	28%	0.45	–[c]
High income: AU$100,000/ US$80,000 or above	0	1	24%	0.24	–[c]	23%	0.42	–[c]
Missing income	0	1	12%	0.12	–[c]	16%	0.36	–[c]
Race: White	0	1	–	–	–	66%	0.47	60%[f]
Race: Black	0	1	–	–	–	12%	0.33	13%[f]
Race: Hispanic	0	1	–	–	–	13%	0.33	19%[g]

Continued

			Australia (N = 1375)			United States (N = 1060)		
	Min	Max	Proportion	Standard Deviation	2016 Census	Proportion	Standard Deviation	2019 Estimates
Race: Asian	0	1	–	–	–	3%	0.16	6%[f]
Race: Others	0	1	–	–	–	6%	0.24	–[f]

Note: Data source: Australia Census 2016 (https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/036); U.S. Census 2019 Estimates (https://www.census.gov/quickfacts/fact/table/US/PST045219).

[a]Our survey covered those people aged 18 or above. To facilitate comparison, we converted census data by dividing the number of people within our categories by the number of people aged 20 or above.

[b]Of people aged 15 or above. An additional 10% did not state their educational status in census.

[c]The median household income in Australia was AU$1438 a week in 2016 (equivalent to AU$74981 a year). The median household income in the United States was US$62843 a year in 2015–2019 (in 2019 dollars).

[d]Of people aged 25 or above.

[e]N = 1032 for this variable due to 28 missing values.

[f]Includes people reporting only one race.

[g]Hispanics may be of any race.

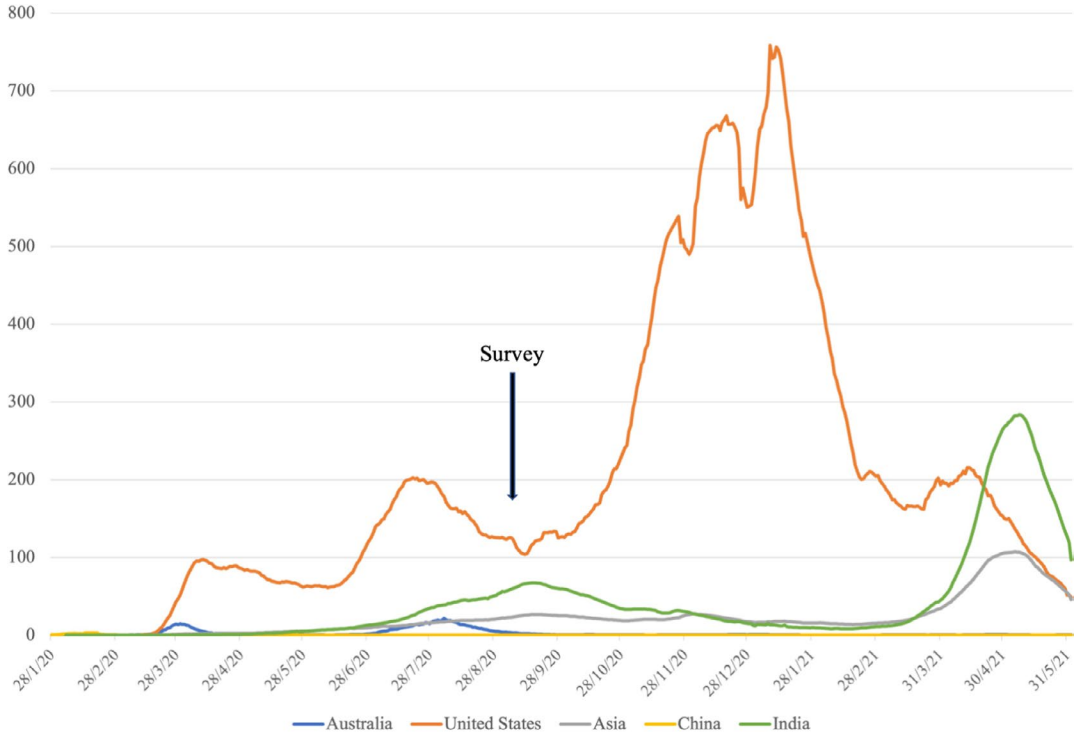

FIGURE 1 Daily new confirmed COVID-19 cases per million people, Australia, United States, Asia, China and India. Data source: COVID-19 Data Repository by the Center for Systems Science and Engineering at John Hopkins University (https://github.com/CSSEGISandData/COVID-19)

panels are comprised of participants who elect to receive surveys from YouGov. The surveys fielded for this study were commissioned by the authors and designed to collect representative samples of 1375 adults in Australia and 1060 in the United States. To ensure it was capturing diversity in respondents, the Australian sample was pre-stratified by age, gender and state, and the U.S. sample by age, gender, race, education and region. Further, in Australia, the survey covered a 300-respondent oversample in Victoria to ensure adequate representation from the state that experienced the toughest restrictions (Stage 4 at the time of the survey).

4.2 | Direct question and analysis

The survey included one direct question testing respondents' attitudes toward people of different racial groups: "How worried are you about catching coronavirus (COVID-19) from people who belong to the following groups?" Respondents were asked about three groups in Australia and the United States (presented in parentheses), respectively: (a) Asian Australians (Americans); (b) White Australians (Americans); (c) African Australians (Americans). The three options, responses and group order were randomised to reduce response bias. All responses were then recoded with a higher value representing a higher level of worry (1 = not at all worried to 5 = extremely worried).

With this direct question, we analysed the data in two steps. First, we compared the mean levels of worry of catching COVID-19 from Asians and other racial groups. Paired *t*-tests were used to determine whether there is statistical evidence that the mean difference between paired observations is significantly different from zero. To directly capture anti-Asian sentiment,

we constructed an Asian-White worry gap index by subtracting the level of worry among Whites from that of Asians. For example, a person may report they are moderately worried about catching COVID-19 from Whites (thus value 4) but extremely worried about catching COVID-19 from Asians (thus value 5). Then, the Asian-White worry gap should be 1. There are nine possible outcomes for this measure, ranging from −4 to 4, with positive values indicating the presence of anti-Asian sentiment. Two-sample *t*-tests were then used to determine whether the measures are significantly different between Australia and the United States.

Second, ordinal logistic regression (because the dependent variable—Asian-White worry gap—is ordinal) was applied to analyse which demographic factors have statistically significant associations with respondents' anti-Asian sentiment. Australia and the United States were first estimated separately in two models to understand their respective patterns. We then pooled the two samples together, constructed a binary variable for the United States and interacted with all demographic controls to directly test the cross-country differences.

4.3 | Unconscious discrimination bias/list experiment and analysis

A critical limitation with the direct question is that people may conceal their opinions to conform to social norms. This is particularly relevant for our study given our interest in the sensitive topic of racial prejudice. To address the social desirability bias, we also included a list experiment in the same questionnaire. The list experiment or item count technique is an indirect questioning method that has been increasingly implemented in social science studies. Respondents are randomly assigned to either a control group or a treatment group. The two groups are presented with the same list of items, with the only difference that a sensitive item is added to the list for those individuals assigned to the treatment group. Notably, respondents are not required to say whether they choose each of the given items but are asked only how many items they choose. In this way, the sensitive question is asked in an indirect manner and respondents may be more willing to offer a truthful response (Blair & Imai, 2012; Glynn, 2013; Imai, 2011; Lepine et al., 2020).

In our survey, participants were given the question, "Below is a list of venues you might normally visit for a meal or to meet friends. After you read all four (five), just tell us how many of these venues you would be concerned about visiting because of the risk of catching coronavirus (COVID-19)?" The control group was given the following four items: (1) Italian restaurant, (2) nightclub, (3) gym and (4) Indian restaurant. The treatment group was given an extra item—Chinese restaurant, thus a total of five items.[1]

We followed two steps to analyse the responses. First, to estimate the proportion of people who avoided Chinese restaurants under COVID-19, we conducted OLS regression with the following model:

$$Y_i = \lambda + \beta T_i + \varepsilon_i$$

where Y_i is the number of venues chosen, λ is the number of venues chosen by the control group, T_i is the group assigned to the i^{th} individual, and ε_i is the error term. The average proportion of people avoiding Chinese restaurants under COVID-19 using the list experiment is then given by β and corresponds to the average difference in the number of venues between the control and the treatment groups. To facilitate the results interpretation, we constructed the baseline by dividing λ by the number of venues given to the control group (i.e. 4). The baseline was used to compare with the estimated avoidance of Chinese restaurants to assess whether people are more/less likely to avoid Chinese restaurants than other venues in the control group.

Second, to investigate the characteristics of people who avoided Chinese restaurants under COVID-19, we added demographic factors (S_{1i}, S_{2i}, …) and interactions of the treatment

dummy variable (T_i) with each demographic factor (following Holbrook & Krosnick, 2010 and Lepine et al., 2020). The models can be written as:

$$Y_i = \lambda + \gamma_1 S_{1i} + \gamma_2 S_{2i} + \ldots + \beta T_i + \alpha_1 T_i S_{1i} + \alpha_2 T_i S_{2i} \ldots + \varepsilon_i$$

Because respondents were randomly assigned to conditions, respondents in either the control or treatment groups were equally likely to choose items on the shorter (four-item) list. Therefore, the interactions in the regression test whether the demographics predicted the magnitude of the impact of adding Chinese restaurants to the list of venues. For example, a positive interaction term between gender and the treatment group dummy variable would indicate that the difference between the mean proportion of people who avoided Chinese restaurants under COVID-19 was larger among female respondents (i.e. more likely to avoid Chinese restaurants).

4.4 | Demographics

To capture the characteristics of those who have stronger anti-Asian sentiment, we included key demographic factors including political affiliation, age, gender, education, employment status, household income and race. In Australia, respondents' political affiliations were categorised into four major groups: (1) Labor, (2) Coalition, (3) Greens and (4) those who voted other party/did not vote. We created four corresponding dummy variables, with Labor being the reference group. In the United States, we also categorised the political affiliations into four major groups: (1) Democrat, (2) Republican, (3) Independent and (4) other party. Similarly, we created four corresponding dummies and assigned Democrat as the reference group.

We measured age using three dummy variables: 18 to 39, 40 to 64 (the reference group) and 65 or above. We measured gender through one dummy variable (1 = women; 0 = men). In Australia and the United States, respondents were asked about their educational qualifications, though the categories in the two countries differ given the variations in the education systems. We regrouped these responses into one single dummy variable, with the value 1 assigned to those who hold a bachelor's degree or above. We used another dummy variable to control for respondents' employment status (1 = employed; 0 = not employed).

Respondents were asked to measure their total household income. We grouped the responses into four categories: low income (less than AU$50,000 or US$40,000[2]), middle income (between AU$50,000 and AU$99,999 or between US$40,000 and US$79,999; the reference group), high income (AU$100,000/US$80,000 or above) and missing income. The dummy variable of missing income was created to include those who chose not to report their household income. We used this dummy variable to avoid losing observations (12 per cent Australian respondents and 16 per cent American respondents).

Finally, race information was collected in the U.S. sample, with respondents categorised as White, Black, Hispanic, Asian and Others. However, parallel information was not collected in Australia. For comparison purposes, we did not include race in our main analysis, but as robustness tests, we re-ran all the regression models for the U.S. sample alone, including race variables (White as the reference group, four dummy variables for Black, Hispanic, Asian and Others, respectively). Descriptive statistics for all demographic controls are presented in Table 1. As is shown, the composition of our sample is very close to that of the national population, suggesting good representability.

TABLE 2 Level of worry of catching COVID-19 from people of different races

			Australia ($N = 1375$)		United States ($N = 1060$)		Two-sample *t*-tests (two-tailed)
	Min	**Max**	**Mean**	**Standard Deviation**	**Mean**	**Standard Deviation**	**Australia = United States**
Asian Australians/Americans	1	5	2.74	1.33	2.53	1.36	*t*-value = 3.82, $p = .00$
White Australians/Americans	1	5	2.74	1.29	2.67	1.39	*t*-value = 1.41, $p = .16$
African Australians/Americans	1	5	2.75	1.33	2.60	1.38	*t*-value = 2.78, $p = .01$
Paired t-tests (two-tailed)							
Asians = Whites			*t*-value = −0.23, $p = .82$	*t*-value = −4.64, $p = .00$			
Asians = Africans			*t*-value = −0.59, $p = .56$	*t*-value = −3.26, $p = .00$			
Asian-White worry gap	−4	4	−0.00	0.81	−0.14	0.97	*t*-value = 3.67, $p = .00$

5 | RESULTS

5.1 | Perceived risk of catching COVID-19 from Asians

Table 2 presents the respondents' level of worry about catching COVID-19 from different racial groups. In Australia, the means for Asian Australians, White Australians and African Australians are 2.74, 2.74 and 2.75, respectively (note: 2 = a little worried; 3 = moderately worried). Results from the paired *t*-tests suggest no statistically significant difference between Asian and non-Asian groups. By contrast, in the United States, the means for Asian Americans, White Americans and African Americans are 2.53, 2.66 and 2.60, respectively. In other words, U.S. respondents perceive a lower level of risk of catching COVID-19 from the Asian group, which suggests social desirability may be exhibited in the opposite direction—reporting less risk of infection from Asian Americans. Results from the paired *t*-tests further confirm the statistical significance of this finding.

The Asian-White worry gap is −0.01 in Australia and −0.14 in the United States, with the difference of statistical significance. Substantively, these values are close to zero indicating that, on average, Australians are equally fearful of catching COVID-19 from Whites and Asians while the U.S. respondents are slightly more fearful of Whites than Asians. To understand how this measure (as a proxy for anti-Asian sentiment) varies across sociodemographic characteristics, we apply ordinal logistic regression analysis (Table 3). In Australia, we find a significant positive association between Coalition party affiliation and the Asian-White worry gap (b = 0.35, $p < .05$). Further, individuals with a bachelor's degree or higher or in the low-income or missing income group (compared with the middle-income group) report a lower Asian-White worry gap. In contrast, in the United States, those affiliated with either Republican or other party (compared with the Democrats) report a significantly higher Asian-White worry gap. Those within the low-income group are also more likely to exhibit a higher Asian-White worry gap.[3] Simply, those identifying with the conservative parties are more likely to worry about catching COVID-19 from Asians than Whites than those in the more left leaning parties.

When the two samples are pooled together, significant differences between the two countries remain. Overall, U.S. respondents report significantly lower anti-Asian sentiment (b = −1.01, $p < .01$). Compared with Australian women, the U.S. women report a significantly lower Asian-White worry gap (b = −0.54, $p < .05$). On the contrary, compared to their counterpart in Australia, the low-income group in the United States exhibits significantly greater anti-Asian sentiment (b = 0.92, $p < .01$), and the high-income group is also marginally more anti-Asian (b = 0.48, $p < .10$).

Differences in the effects of political affiliations also remain. To better understand the patterns, we plotted the marginal effects of the United States for the probabilities of different Asian-White worry gap outcomes in Figure 2. As the figure shows, when other demographic variables are controlled, there remains a significant difference between U.S. Democrat and Australian Labor. In comparison, U.S. Democrats report that they are significantly less worried about catching COVID-19 from Asians compared with White people than those in the Australian Labor party.

5.2 | Estimated avoidance of Chinese restaurants under COVID-19

Table 4 presents the results of the list experiment which captures unconscious anti-Chinese bias. We find that 46 per cent of the respondents avoided Chinese restaurants under COVID-19 in Australia and 39 per cent in the United States. This is largely consistent with responses to the previous direct question, which suggest a generally lower level of worry of catching COVID-19 from Asians in the United States than in Australia (Table 2). However, when comparing the

TABLE 3 Ordinal logistic regression results for the Asian-White worry gap

	Australia		United States		Pooled	
	Coefficient	**Robust Standard Error**	**Coefficient**	**Robust Standard Error**	**Coefficient**	**Robust Standard Error**
Demographics						
Coalition (AU)/Republican (US)	0.35**	0.17	0.74***	0.18	0.34**	0.17
Greens (AU)/Independent (US)	−0.40	0.27	0.01	0.21	−0.39	0.26
Voted other/did not vote	0.30	0.18	0.84***	0.26	0.29	0.17
Age: between 18 and 39	−0.21	0.17	−0.06	0.18	−0.20	0.16
Age: 65 or above	−0.03	0.19	0.04	0.20	−0.03	0.18
Woman	0.29**	0.14	−0.25	0.15	0.28**	0.14
Bachelor's degree or above	−0.44***	0.14	−0.11	0.18	−0.42	0.14
Employed	0.14	0.15	0.17	0.17	0.14	0.15
Low income	−0.33*	0.18	0.57***	0.22	−0.31***	0.17
High income	−0.30	0.20	0.18	0.20	−0.29	0.19
Missing income	−0.40*	0.22	0.08	0.23	−0.38*	0.21
US	–	–	–	–	−1.01***	0.35
Interaction terms						
Coalition (AU)/Republican (US) × US	–	–	–	–	0.43*	0.25
Greens (AU)/Independent (US) × US	–	–	–	–	0.41	0.34
Voted other/did not vote × US	–	–	–	–	0.60*	0.32
Age: between 18 and 39 × US	–	–	–	–	0.14	0.25
Age: 65 or above × US	–	–	–	–	0.07	0.28
Woman × US	–	–	–	–	−0.54**	0.21
Bachelor's degree or above × US	–	–	–	–	0.32	0.23

(Continues)

TABLE 3 (Continued)

	Australia		United States		Pooled	
	Coefficient	**Robust Standard Error**	**Coefficient**	**Robust Standard Error**	**Coefficient**	**Robust Standard Error**
Employed × US	–	–	–	–	0.05	0.24
Low income × US	–	–	–	–	0.92***	0.29
High income × US	–	–	–	–	0.48*	0.29
Missing income × US	–	–	–	–	0.46	0.32

Note: Cuts are not reported in the table (but can be provided upon request). ***$p < .01$, **$p < .05$, *$p < .1$.

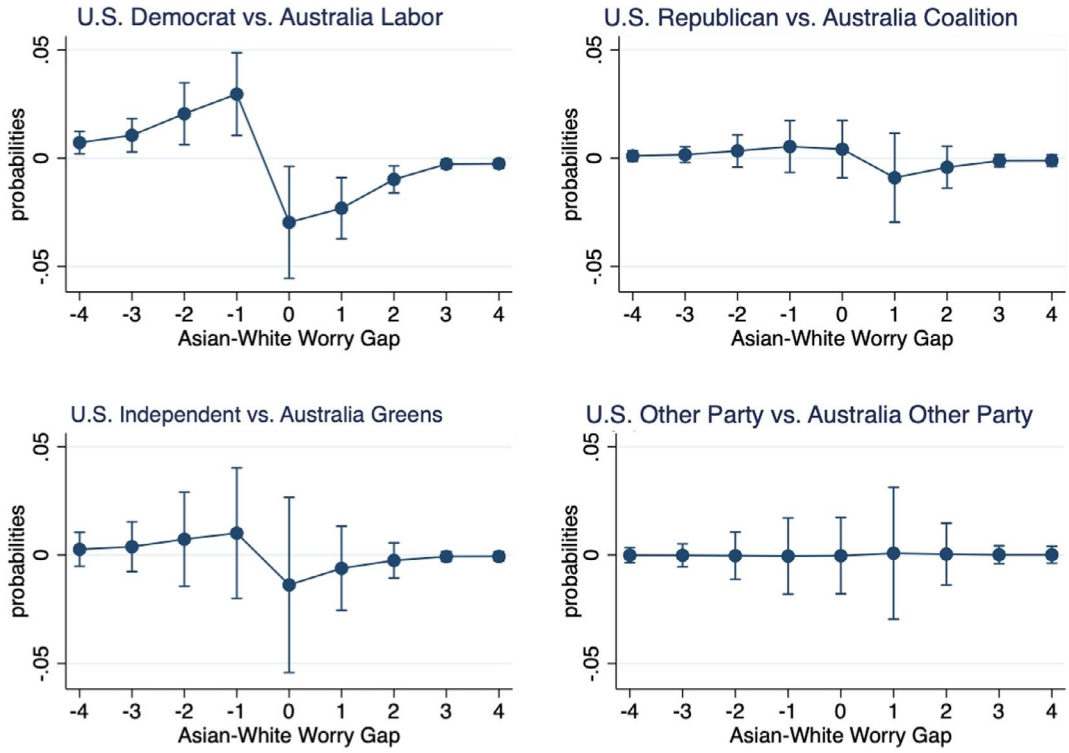

FIGURE 2 Predicted marginal effect of U.S. for the probabilities of different Asian-White worry gap outcomes, by political affiliation

TABLE 4 Estimated avoidance of Chinese restaurant under COVID-19

		Estimated number of venues chosen		Baseline (avoidance of other venues)		Estimated avoidance of Chinese restaurants	
	Obs.	Control	Treatment	Proportion	95% CI	Proportion	95% CI
Australia	1375	2.33	2.78	0.58	[0.56, 0.61]	0.46	[0.27, 0.64]
United States	1060	2.10	2.50	0.53	[0.49, 0.56]	0.39	[0.17, 0.62]

avoidance of Chinese restaurants to the avoidance of the other four venues (thus the baseline), we did not find strong evidence that people were more likely to avoid Chinese restaurants than other venues in either Australia or the United States. It is important to note that our sample was drawn prior to the rise of the variants in India (World Health Organization, 2021; and see Figure 1), making this an appropriate comparison during this phase of the pandemic.

The OLS regression analysis of the list experiment shows that, in Australia, high-income people are significantly less likely to be concerned with Chinese restaurants under COVID-19 (Table 5). By contrast, the younger and working population are all significantly more likely to avoid Chinese restaurants under COVID-19. In the United States, again, most demographic predictors are not statistically significant. Here, the only statistically significant predictor is political affiliation—Republicans are significantly less likely to avoid Chinese restaurants under COVID-19, a finding which is discussed in more detail below.[4]

The interpretation of results in Table 5 is difficult given the inclusion of more than two categories for several sociodemographic groups (e.g. four groups for political affiliation) and interaction terms. For ease of understanding, we estimated the marginal effect of each sociodemographic group and their corresponding avoidance of Chinese restaurants individually. For example, to estimate the avoidance among those who voted for the Labor party, we used the model presented in Table 5, set the values of all other party affiliation dummies to be zero and all other independent variables at their mean values. We then estimated both the baseline and marginal effect of being Labor by treatment groups. Finally, we estimated the difference in the estimated number of venues avoided between the control and treatment groups, which is the estimated proportion of people avoiding Chinese restaurants for the Labor group.

TABLE 5 OLS regression results for the number of venues avoided under COVID-19

	Australia (N = 1375)		United States (N = 1032)	
	Coefficient	**Robust Standard Error**	**Coefficient**	**Robust Standard Error**
Intercept	2.74***	0.17	2.38***	0.23
Demographics				
Coalition (AU)/Republican (US)	−0.16	0.15	−0.98***	0.18
Greens (AU)/Independent (US)	0.10	0.20	−0.30*	0.17
Voted other/did not vote	−0.07	0.16	−0.65***	0.25
Age: between 18 and 39	−0.47***	0.13	−0.11	0.15
Age: 65 or above	−0.12	0.18	−0.06	0.20
Woman	0.07	0.12	0.49***	0.14
Bachelor's degree or above	0.21*	0.12	0.73***	0.15
Employed	−0.30**	0.14	−0.12	0.15
Low income	−0.26*	0.15	−0.25	0.18
High income	0.09	0.15	−0.28	0.19
Missing income	−0.27	0.22	−0.22	0.23
Treatment group	−0.14	0.31	0.39	0.38
Interaction terms				
Coalition (AU)/Republican (US) × Treatment group	0.18	0.25	−0.50*	0.28
Greens (AU)/Independent (US) × Treatment group	−0.20	0.33	0.09	0.30
Voted other/did not vote × Treatment group	−0.44	0.25	0.45	0.42
Age: between 18 and 39 × Treatment group	0.81***	0.22	0.06	0.25
Age: 65 or above × Treatment group	0.29	0.29	0.40	0.32
Woman × Treatment group	0.31	0.19	−0.05	0.23
Bachelor's degree or above × Treatment group	−0.06	0.20	−0.18	0.26
Employed × Treatment group	0.48**	0.22	0.02	0.25
Low income × Treatment group	0.09	0.25	0.13	0.30
High income × Treatment group	−0.44*	0.25	0.05	0.31
Missing income × Treatment group	0.07	0.33	−0.33	0.36

Note: ***$p < .01$, **$p < .05$, *$p < .1$.

TABLE 6 Estimated marginal effects and estimated avoidance of Chinese restaurant under COVID-19, by sociodemographic group

	Australia				United States			
	Baseline (avoidance of other venues)		Estimated avoidance of Chinese restaurants		Baseline (avoidance of other venues)		Estimated avoidance of Chinese restaurants	
	Proportion	95% CI	Proportion	95% CI	Proportion	95% CI	Proportion	95% CI
Labor (AU)/Democrat (US)	0.60	[0.55, 0.65]	0.56	[0.22, 0.91]	0.64	[0.58, 0.69]	0.44	[0.07, 0.80]
Coalition (AU)/ Republican (US)	0.56	[0.51, 0.61]	0.74	[0.41, 1.08]	0.39	[0.33, 0.46]	−0.06	[−0.47, 0.34]
Greens (AU)/ Independent (US)	0.62	[0.54, 0.71]	0.37	[−0.18, 0.92]	0.56	[0.50, 0.63]	0.53	[0.08, 0.98]
Voted other/did not vote	0.58	[0.53, 0.64]	0.12	[−0.23, 0.48]	0.47	[0.37, 0.58]	0.88	[0.16, 1.61]
Age: between 18 and 39	0.54	[0.47, 0.57]	0.89	[0.59, 1.18]	0.55	[0.47, 0.58]	0.35	[0.00, 0.70]
Age: between 40 and 64	0.63	[0.59, 0.68]	0.08	[−0.22, 0.38]	0.55	[0.49, 0.61]	0.29	[−0.07, 0.64]
Age: 65 or above	0.60	[0.53, 0.68]	0.37	[−0.10, 0.84]	0.54	[0.46, 0.62]	0.69	[0.18, 1.20]
Men	0.57	[0.53, 0.62]	0.30	[0.04, 0.56]	0.47	[0.42, 0.52]	0.43	[0.12, 0.75]
Women	0.59	[0.55, 0.63]	0.61	[0.35, 0.87]	0.60	[0.55, 0.64]	0.39	[0.08, 0.70]
Secondary school or below	0.56	[0.52, 0.60]	0.48	[0.23, 0.73]	0.49	[0.45, 0.53]	0.43	[0.17, 0.70]
Bachelor's degree or above	0.61	[0.57, 0.66]	0.42	[0.13, 0.70]	0.67	[0.61, 0.73]	0.25	[−0.17, 0.67]
Not employed	0.63	[0.58, 0.67]	0.19	[−0.12, 0.50]	0.55	[0.50, 0.60]	0.39	[0.08, 0.70]
Employed	0.55	[0.51, 0.59]	0.67	[0.41, 0.93]	0.52	[0.47, 0.57]	0.41	[0.06, 0.75]
Low income	0.55	[0.51, 0.59]	0.67	[0.41, 0.93]	0.52	[0.46, 0.58]	0.51	[0.10, 0.93]
Middle income	0.61	[0.56, 0.66]	0.53	[0.18, 0.87]	0.58	[0.52, 0.65]	0.39	[−0.02, 0.79]
High income	0.63	[0.57, 0.69]	0.09	[−0.29, 0.46]	0.51	[0.45, 0.58]	0.43	[−0.03, 0.90]
Missing income	0.54	[0.45, 0.64]	0.60	[0.05, 1.15]	0.53	[0.44, 0.62]	0.06	[−0.51, 0.63]

Table 6 provides a more straightforward picture of who is more or less likely to avoid Chinese restaurants under COVID-19. In Australia, the most noticeable finding is that the younger population, those affiliated with the Coalition party, women, employed individuals, low-income and missing income groups reported high rates (≥60 per cent) of avoiding Chinese restaurants. However, compared with their baseline respectively, the younger population stands out as the only group that is more likely to avoid Chinese restaurants than other venues.

In the United States, those who voted other/did not vote and aged 65 or above had high rates (≥60 per cent) of avoiding Chinese restaurants, but they were not significantly more likely to avoid Chinese restaurants than other venues.[5] Among all sociodemographic groups, Republicans appear to be the main outlier with a negative estimate, indicating that Republicans are more likely to visit a Chinese restaurant. Compared to their baseline, Republicans are also less likely to avoid Chinese restaurants than other venues.

6 | DISCUSSION AND CONCLUSION

Our study shows the following conclusions. First, respondents in Australia and the United States express similar levels of worry about catching COVID-19 from Asians relative to other racial groups. Also, respondents in Australia and the United States do not show a greater likelihood of avoiding Chinese restaurants compared with other venues. On the whole, the findings are contrary to H1 which indicates widespread anti-Asian sentiment among general populations. Rather, we find that anti-Asian sentiment is evidently prevalent among certain groups and these patterns differ by country.

We did not find evidence of stronger anti-Asian sentiment in the United States compared to Australia, contradicting H2. In direct questions, U.S. respondents are slightly more fearful of Whites than Asians (or a "pro-Asian" bias). This finding is primarily driven by responses from Democrats, indicating support for H3, which suggests a closer association between political affiliation and anti-Asian bias in the United States. Individuals identifying as Republicans report significantly more direct anti-Asian fear. However, the list experiment reveals that Republicans, despite their anti-Asian attitudes, are actually *less* likely to avoid Chinese restaurants than other venues. The contradictory result for Republicans may be accounted for by the fact that while Trump enflamed anti-Chinese sentiments, Republicans are more likely to denounce COVID-19 as a legitimate health concern (Pew Research Center, 2020).

In Australia, the political cleavage in the United States is less evident, again showing support for H3. Rather, anti-Asian bias in Australia is linked to a wide range of socioeconomic factors. Our analysis of the direct questions suggests that women, less educated individuals and individuals in the middle-income bracket were more likely to share anti-Asian bias, which may reflect the greater economic hardships these groups encountered during COVID-19, despite Australia's low infection rates during this time. The list experiment confirms a similarly complex picture and highlights one important yet worrying pattern, for the younger population group most notably. While the direct question analysis does not suggest that younger Australians exhibit higher Asian-White worry gap, they are significantly more likely to avoid Chinese restaurants, compared with either their own baseline or other demographic groups. The contrast between the two sets of findings points to the potential presence of social desirability bias and suggests some of the anti-Asian bias may be unconsciously internalised among the young Australian adults.

The strength of this paper lies in its investigation of a very timely and important topic; since the COVID-19 outbreak, the anti-Asian sentiment has repeatedly made headlines. This study asks a highly relevant question: Who exhibits anti-Asian prejudice? Importantly, our study moves beyond aggregate figures and provides a glimpse of how this may be occurring. Under two different COVID-19 settings, the factors associated with anti-Asian bias differ. In

the United States, it is highly political with Republicans most fearful of catching COVID-19 from Asians but also most willing to go to any venue. This bias seems to be shaped more by political rhetoric and media context (Darling-Hammond et al., 2020; Hswen et al., 2021; Lu & Sheng, 2020: 4). By contrast, Australians were more worried about catching COVID-19 from any racial groups, including Asians, despite low infection rates at the survey time. Coalition party members were more likely to express an anti-Asian bias, but so were other marginalised groups. In this regard, the economic fallout of closed economies rather than risk of infection may have led to a rise in anti-Asian sentiment.

In these ways, our study lends support to the role of macro-level mechanisms in exacerbating bias during public health outbreaks. Under COVID-19, anti-Asian bias is associated with economic conditions, political rhetoric and media context. While historical stereotypes and a legacy of racist policies have undoubtedly played a role in anti-Asian bias during COVID-19, this is further exacerbated by the current context. However, our findings suggest that the extent to which these macro-level factors may shape individual prejudice or bias differs by subgroup or certain populations. Future research may examine how macro-level factors intersect with different subgroups of individuals to shape individuals' bias.

In terms of practical implications, our findings imply the need for anti-discrimination policies and greater resources for policing and bystander training, and community-centred approaches to increase awareness. While these policies do not address the root causes of hate crimes, they can provide an essential step in that direction (Tran, 2021). Additionally, policies directed at removing false or misleading information, especially on social media platforms, may help to curb misleading information about Asians and COVID-19.

Our study is not without limitations. To begin, we used Chinese restaurants as the only list experiment to test people's unconscious bias. However, as the case of Republicans demonstrates, this item may not work well as an ideal indicator in the COVID-19 context. Since the pandemic is deeply politicised in the United States, going to Chinese restaurants may have been interpreted, in particular by Republicans, as a political claim. This may reflect the uneven responses that Republicans and Democrats shared over reopening (Pew Research Center, 2020).

Since we use different questions in our direct and list experiment questions, we are unable to precisely assess the gap between directly reported anti-Asian sentiment and people's truthful feelings. Related, while our direct question asks about Asians, our list experiment question asks about Chinese restaurants. It is possible that some respondents may share anti-Chinese sentiment, but not anti-Asian sentiment. As the pandemic continued, the rise of variants from other nations, notably the delta variant from India, may shift conscious and unconscious bias against other racial groups. This may lead to a broad anti-Asian sentiment or may be isolated to specific racial groups (e.g. Chinese and Indians) providing a direction for future research.

Future research with a more sophisticated questionnaire design and observing changing patterns of anti-Asian sentiment would help elucidate our understanding of how anti-Asian bias responds to COVID-19 conditions. We provide some directions including list experiments that sit across Asian racial groups. But, we also suggest an integrated longitudinal panel that captures people over time and asks questions related to the changing events. This includes survey questions on feelings toward the Chinese government, Chinese internationals, and Chinese citizens to understand where citizens located blame and anti-Asian sentiment. An important innovation would be to link these surveys over time to understand whether those who express unconscious bias continue to carry this sentiment into the future or whether the rollout of mass vaccination programs across these two nations minimises some of this damage. An integrated survey focusing exclusively on these issues across these countries is timely and warranted.

ORCID

Xiao Tan https://orcid.org/0000-0001-9210-439X
Leah Ruppanner https://orcid.org/0000-0002-6111-1914

ENDNOTES

[1] It is important to note that at the time of our survey (September 2020), the COVID-19 infection was intimately linked to Wuhan and China as the novel infections out of other nations (e.g., delta variant out of India) had not yet emerged (World Health Organization, 2021; and see Figure 1). We utilised the term Chinese restaurant given the strong link between COVID-19 and China more specifically than other Asian groups. This was a deliberate research design decision especially in light of previous research showing the deleterious impact of novel but deadly virus transmission on Chinese businesses in the United States (e.g. SARS; see Eichelberger 2007).

[2] At time of survey, one US dollar equated to approximately 1.4 AU dollar.

[3] As an additional test, we re-ran the model with race included for the U.S. sample. The substantial results presented in Table 3 still hold. Further, we find that, compared with White people, Asian respondents report a significantly higher Asian-White worry gap ($b = 1.75$, $p < 0.01$).

[4] As an additional test, we re-ran the model with race included for the U.S. sample. The substantial results presented in Table 3 hold. None of the interaction terms for race is statistically significant.

[5] Based on the additional test in the previous footnote, we also predicted the likelihood of avoiding venues for different racial groups. For the White group (when all other demographic controls are controlled), the baseline likelihood of avoiding venues is 0.55, with the 95% CI to be [0.51, 0.60] and the estimated avoidance of Chinese restaurants is 0.42 [0.14, 0.69]. For the Asian group, the baseline is 0.60 [0.43, 0.77] and the avoidance of Chinese restaurants is 0.90 [−0.24, 2.04]. In other words, compared to either their own baseline or White Americans, Asian Americans are not more/less likely to avoid Chinese restaurants.

REFERENCES

Ali, S.H. (2008) Stigmatized ethnicity, public health, and globalization. *Canadian Ethnic Studies*, 40(3), 43–64.

Barde, R. (2003) Prelude to the plague: Public health and politics at America's Pacific gateway, 1899. *Journal of The History of Medicine and Allied Sciences*, 58(2), 153–186.

Blair, G. & Imai, K. (2012) Statistical analysis of list experiments. *Political Analysis*, 20, 47–77.

Budiman, A. & Ruiz, N.G. (2021) *Key facts about Asian Americans, a diverse and growing population*. Washington DC: Pew Research Center Available from: https://www.pewresearch.org/fact-tank/2021/04/29/key-facts-about-asian-americans/ [Accessed 30 June 2021].

Chang, C. (2017) *How Asian are we really? What Australia's Census 2016 showed us. News.com*. Available from: https://www.news.com.au/national/how-asian-are-we-really-what-australias-census-2016-showed-us/news-story/2f055e32e74cbe4341953006379b6394 [Accessed 30 June 2021].

Cheah, C.S., Wang, C., Ren, H., Zong, X., Cho, H.S. & Xue, X. (2020) COVID-19 racism and mental health in Chinese American families. *Pediatrics*, 146(5), e2020021816.

Cheng, H.L. (2020) Xenophobia and racism against Asian Americans during the COVID-19 pandemic: mental health implications. *Journal of Interdisciplinary Perspectives and Scholarship*, 3(1), 3.

Child, J., Dillon, R., Erasmus, E. & Johnson, J. (2020) *Collaboration in crisis: reflecting on Australia's COVID-19 response*. Melbourne: McKinsey & Company. Available from: https://www.mckinsey.com/industries/public-and-social-sector/our-insights/collaboration-in-crisis-reflecting-on-australias-covid-19-response [Accessed 30 June 2021].

Chiu, O. (2020) *COVID-19 has led to widespread incidents of anti-Asian racism in Australia. The China Story*. https://www.thechinastory.org/covid-19-has-led-to-widespread-incidents-of-anti-asian-racism-in-australia/ [Accessed 30 June 2021].

Darling-Hammond, S., Michaels, E.K., Allen, A.M., Chae, D.H., Thomas, M.D., Nguyen, T.T. et al. (2020) After "the China Virus" went viral: racially charged Coronavirus coverage and trends in bias against Asian Americans. *Health Education & Behavior*, 47(6), 870–879.

Eichelberger, L. (2007) SARS and New York's Chinatown: the politics of risk and blame during an epidemic of fear. *Social Science & Medicine*, 65(6), 1284–1295.

Gee, G.C. & Ponce, N. (2010) Associations between racial discrimination, limited English proficiency, and health-related quality of life among 6 Asian ethnic groups in California. *American Journal of Public Health*, 100(5), 888–895.

Glynn, A.N. (2013) 'What can we learn with statistical truth serum? *Design and analysis of the list experiment', Public Opinion Quarterly*, 77, 159–172.

Griffiths, P. (2002) *Towards White Australia: The shadow of Mill and the spectre of slavery in the 1880s debates on Chinese immigration*. In *11th Biennial National Conference of the Australian Historical Association, Brisbane*. Available from: https://essaydocs.org/towards-white-australia-the-shadow-of-mill-and-the-spectre-of.html [Accessed 30 June 2021].

Gyory, A. (1998) *Closing the gate: race, politics, and the Chinese Exclusion Act*. Chapel Hill: University of North Carolina Press.

Holbrook, A.L. & Krosnick, J.A. (2010) Social desirability bias in voter turnout reports: tests using the item count technique. *Public Opinion Quarterly*, 74, 37–67.

Hswen, Y., Xu, X., Hing, A., Hawkins, J.B., Brownstein, J.S. & Gee, G.C. (2021) Association of "#covid19" versus "#chinesevirus" with anti-Asian sentiments on Twitter: March 9–23, 2020. *American Journal of Public Health*, 111(5), 956–964.

Imai, K. (2011) Multivariate regression analysis for the item count technique. *Journal of the American Statistical Association*, 106, 407–416.

Karp, P. & Davidson, H. (2020) *China bristles at Australia's call for investigation into coronavirus origin*. *The Guardian*. https://www.theguardian.com/world/2020/apr/29/australia-defends-plan-to-investigate-china-over-covid-19-outbreak-as-row-deepens [Accessed 30 June 2021].

Kassam, N. & Hsu, J. (2021) *Being Chinese in Australia: Public opinion on Chinese communities*. Sydney: The Lowy Institute. Available from: https://interactives.lowyinstitute.org/features/chinese-communities/Lowy%20Institute%20–%20Being%20Chinese%20in%20Australia.pdf [Accessed 30 June 2021].

Kiely, E., Robertson, L., Rieder, R. & Gore, D. (2020) *Timeline of Trump's COVID-19 comments*. *FactCheck*. Available from: https://www.factcheck.org/2020/10/timeline-of-trumps-covid-19-comments/ [Accessed 30 June 2021].

Lee, J. (2007) One step closer: Understanding the past and potential work and influence of Asian American interest groups in claiming a space for Asian Americans in America's democracy. *Asian American Law Journal*, 14, 123.

Lepine, A., Treibich, C., Ndour, C.T., Gueye, K. & Vickerman, P. (2020) HIV infection risk and condom use among sex workers in Senegal: evidence from the list experiment method. *Health Policy and Planning*, 35(4), 408–415.

Lu, R. & Sheng, Y. (2020) From fear to hate: How a pandemic sparks racial animus in the United States. *ArXiv*. Available from: https://arxiv.org/abs/2007.01448 [Accessed 30 June 2021].

Man, S. (2020) Anti-Asian violence and US imperialism. *Race and Class*, 62(2), 24–33.

Markus, A. (2021) *Mapping social cohesion: The Scanlon Foundation Surveys 2020*. Melbourne: Scanlon Foundation Research Institute. Available from: https://scanloninstitute.org.au/sites/default/files/2021-02/SC2020%20Report%20Final.pdf [Accessed 30 June 2021].

Mohr, J.C. (2004) *Plague and fire: battling black death and the 1900 burning of Honolulu's Chinatown*. Oxford: Oxford University Press.

Morey, B.N., Gee, G.C., Shariff-Marco, S., Yang, J., Allen, L. & Gomez, S.L. (2020) Ethnic enclaves, discrimination, and stress among Asian American women: differences by nativity and time in the United States. *Cultural Diversity and Ethnic Minority Psychology*, 26(4), 460–471.

Moses, M.S., Maeda, D.J. & Paguyo, C.H. (2019) Racial politics, resentment, and affirmative action: Asian Americans as "model" college applicants. *The Journal of Higher Education*, 90(1), 1–26.

Noymer, A. & Lee, R. (2013) Immigrant health around the world: evidence from the World Values Survey. *Journal of Immigrant and Minority Health*, 15(3), 614–623.

Peffer, G.A. (1986) Forbidden families: Emigration experiences of Chinese women under the Page Law, 1875–1882. *Journal of American Ethnic History*, 6, 28–46.

Pew Research Center. (2020) *Republicans, Democrats move even further apart in Coronavirus concerns*. Available from: https://www.pewresearch.org/politics/2020/06/25/republicans-democrats-move-even-further-apart-in-coronavirus-concerns/ [Accessed 30 June 2021].

Razik, N. (2020) *Almost one third of Australians blame coronavirus pandemic on Chinese community, new poll finds*. *SBS News*. Available from: https://www.sbs.com.au/news/almost-one-third-of-australians-blame-coronavirus-pandemic-on-chinese-community-new-poll-finds [Accessed 30 June 2021]

Ruiz, N., Horowitz, J. & Tamir, C. (2020) *Many Black and Asian Americans say they have experienced discrimination amid the COVID-19 outbreak*. *Pew Research Center*. Available from: https://www.pewresearch.org/social-trends/2020/07/01/many-black-and-asian-americans-say-they-have-experienced-discrimination-amid-the-covid-19-outbreak/ [Accessed 30 June 2021].

Stop AAPI Hate. (2021) *News*. San Francisco State University. Available from: https://stopaapihate.org/news/ [Accessed 30 June 2021].

Tessler, H., Choi, M. & Kao, G. (2020) The anxiety of being Asian American: hate crimes and negative biases during COVID-19 pandemic. *American Journal of Criminal Justice*, 45, 636–646.

Tran, V. (2021) *Will a new law to tackle hate crimes make Asians in America safer?*. *The Philadelphia Inquirer*. Available from: https://www.inquirer.com/opinion/commentary/asians-hate-crime-law-prevention-20210603.html [Accessed 30 June 2021].

Truu, M. (2020) *Prime Minister Scott Morrison says Chinese-Australians provided "one of the greatest defences" in the early weeks of the COVID-19 pandemic in Australia*. *SBS*. Available from: https://www.sbs.com.au/news/stop-it-scott-morrison-calls-for-an-end-to-coronavirus-related-racism [Accessed 30 June 2021].

White, A.I.R. (2020) Historical linkages: epidemic threat, economic risk, and xenophobia. *The Lancet*, 395(10232), 1250–1251. https://doi.org/10.1016/S0140-6736(20)30737-6

World Health Organization. (2021) *Tracking SARS-CoV-2 variants*. Available from: https://www.who.int/en/activities/tracking-SARS-CoV-2-variants/ [Accessed 30 June 2021].

Zhou, N. (2020) *Asian Australians threatened and spat on in racist incidents amid coronavirus*. *The Guardian*. Available from: https://www.theguardian.com/australia-news/2020/jul/24/asian-australians-threatened-and-spat-on-in-racist-incidents-amid-coronavirus [Accessed 30 June 2021].

AUTHOR BIOGRAPHIES

Xiao Tan is a Research Fellow at the Faculty of Arts at the University of Melbourne where she completed her PhD in 2019. Her research interests include health policy, state-society relations, and gender and health, with a primary focus on China. She is conducting research on anti-Chinese sentiment with seed grants from the Faculty of Arts and the Centre for Contemporary Chinese Studies at the University of Melbourne.

Rennie Lee is a Senior Research Fellow at the Institute for Social Science Research and Life Course Centre at the University of Queensland. Her research focuses on immigrant communities, comparative immigration policy and racial and ethnic relations. Her current research examines immigrant and ethnic groups in North America, Europe and Australia with an emphasis on the intersection of gender and immigration policy on immigrant outcomes.

Leah Ruppanner is an associate professor of sociology and Co-Founder of The Future of Work Lab at the University of Melbourne. Her research investigates gender and its intersection to inequalities, technologies and policies. This includes a book Motherlands: How States in the US Push Mothers Out of Employment. Her work has been published in Demography, Journal of Marriage and Family, European Sociological Review, Social Forces, and Sociological Methods and Research.

How to cite this article: Tan, X., Lee, R., & Ruppanner, L. (2021). Profiling racial prejudice during COVID-19: Who exhibits anti-Asian sentiment in Australia and the United States? *Australian Journal of Social Issues*, 56, 464–484. https://doi.org/10.1002/ajs4.176